

Date: Mon, 20 Jun 94 04:30:23 PDT  
From: Ham-Digital Mailing List and Newsgroup <ham-digital@ucsd.edu>  
Errors-To: Ham-Digital-Errors@UCSD.Edu  
Reply-To: Ham-Digital@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Digital Digest V94 #202  
To: Ham-Digital

Ham-Digital Digest                      Mon, 20 Jun 94                      Volume 94 : Issue    202

Today's Topics:

                  AEA DSP2232 Mailing List  
                  DISTRIBUTION STATUS  
          finding the freq of an xtal (3 msgs)  
          GTOR evaluation/update? (2 msgs)  
          Railroad track as an antenna?

Send Replies or notes for publication to: <Ham-Digital@UCSD.Edu>  
Send subscription requests to: <Ham-Digital-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Digital Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-digital".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 20 Jun 1994 00:01:03 +0200  
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!pipex!sunic!trane.uninett.no!  
eunet.no!nuug!EU.net!Germany.EU.net!Aachen.Germany.EU.net!rmi.de!  
Aachen.Germany.EU.net!rmi.de!not-for-mail@network  
Subject: AEA DSP2232 Mailing List  
To: ham-digital@ucsd.edu

=====  
          This is the Mailserver at EUnet EUregio POP Aachen  
=====

If you are interested in exchanging information on the

AEA DSP 2232 - Digital Signal Processing Multi-Mode Data Controller

you are invited to join our Mailing list (started on May 12, 1994).  
Please subscribe by sending a Mail to

dsp2232-request@rmi.de [or dsp2232-request@Aachen.Germany.EU.net]  
with the subject: "subscribe" .

If you would like to share your experiences of knowledge on the  
unit, write you contributions to

dsp2232@rmi.de [or dsp2232@Aachen.Germany.EU.net].

=====  
Automatic weekly mailing  
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Date: 19 Jun 94 16:54:16 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: DISTRIBUTION STATUS  
To: ham-digital@ucsd.edu

SMTPGATE.HAMDIGI2 DISTRIBUTION STATUS INFORMATION 06/19/94 16:  
53:00  
=====

DISTRIBUTION ID: SMTPGATE.HAMDIGI2.3416  
SUBJECT : Ham-Digital Digest V94 #200  
DOCUMENT NAME : %%DOCNAME  
DATE SENT : 06/18/94 TIME SENT: 07:56:00  
=====

YOUR MAIL WAS NOT DELIVERED FOR THE FOLLOWING REASON:

SNADS STATUS : 000F  
X.400 CODE : %%DIAGCODE  
INFORMATION : %%SUPPLINFO  
EXPLANATION : SNADS SYSTEM ERROR  
=====

RECIPIENT : CCMAIL.0060880  
LAST NAME :  
FIRST NAME :  
MIDDLE INITIAL :  
INITIALS :  
NATIVE NAME :  
COUNTRY :  
ADMD :  
PRMD :

ORGANIZATION :  
ORG UNIT 1 :  
ORG UNIT 2 :  
ORG UNIT 3 :  
ORG UNIT 4 :  
DDA :  
TITLE :  
DESCRIPTION :  
USERDATA :  
TELEPHONE :

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Date: 19 Jun 1994 13:12:22 -0400  
From: news1.digex.net!access.digex.net!not-for-mail@uunet.uu.net  
Subject: finding the freq of an xtal  
To: ham-digital@ucsd.edu

In article <2u0mk4\$sgt@crl3.crl.com>, Acsys Inc. wrote:

>  
> I have a xtal of unknown value (~8.7mhz) that I need to find the exact  
> frequency of. What is the best way to do this? I do have a frequency  
> counter, sho should I build a xtal osc and use the coutner? How bout  
> a simple osc made out of cmos parts like the 4011? If so what would  
> be a good schematic to use to do this? I need to be quite accurate.

>  
> thanx,  
>  
> mycal  
>

The freq counter should be accurate enough, you have to find a buffered point to pick off the signal, otherwise you'll pad the crystal oscillator and throw it off frequency a bit if you go directly to it.

Andy N3LCW

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Date: 19 Jun 1994 12:51:01 -0400  
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!news.ans.net!newstf01.crl.aol.com!search01.news.aol.com!not-for-mail@network.ucsd.edu  
Subject: finding the freq of an xtal  
To: ham-digital@ucsd.edu

In article <2u0mk4\$sgt@crl3.crl.com>, acsys@crl.com (Acsys Inc.) writes:

I have a xtal of unknown value (~8.7mhz) that I need to find the exact frequency of. What is the best way to do this? I do have a frequency counter, should I build a xtal osc and use the counter? How about a simple osc made out of cmos parts like the 4011? If so what would be a good schematic to use to do this? I need to be quite accurate.

thanx,

mycal

Obviously an oscillator would be a fantastic way to check your crystal. In fact, given the circumstances, if you don't have really good test equipment, it is probably the best way. Another way you could test the crystal would be with a sweep generator that is capable of going up to well beyond the frequency of the crystal, and by using a spectrum analyzer and a generator, you should be able to sweep through the frequencies, look for the peak output and then determine the center frequency.

Build the oscillator though... simpler... :)

Prof RickD, NONJY

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Date: 20 Jun 94 07:44:45 GMT  
From: ihnp4.ucsd.edu!sdd.hp.com!nigel.msen.com!yale.edu!noc.near.net!news.delphi.com!BIX.com!jdow@network.ucsd.edu  
Subject: finding the freq of an xtal  
To: ham-digital@ucsd.edu

domonkos@access.digex.net (Andy Domonkos) writes:

>In article <2u0mk4\$sgt@crl3.crl.com>, Acsys Inc. wrote:  
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>> thanx,  
>>  
>> mycal  
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>The freq counter should be accurate enough, you have to find a buffered

>point to pick off the signal, otherwise you'll pad the crystal oscillator  
>and throw it off frequency a bit if you go directly to it.

>Andy N3LCW

Well, sorta. You have to know whether the crystal is cut for a parallel resonant mode (if so what parallel capacitance) or a series mode. Then you build a leetle oscillator that is appropriate to the crystal's mode and measure it. That tells you a little bit about the crystal. Howsomeever, crystals are sensitive to the amount of drive you place on them, temperature (of course), pressure, etc etc. Um, just how accurate must it be? If a couple hundred parts per million are enough then a rude-crude CMOS or TTL oscillator should do. If you need it characterized to the nitties and gritties you have a whole nuther ball of fish to fry. (Hm, could I mix that metaphore worse?)

An ideal way is a VERY stable network analyzer. Place the crystal in a well calibrated fixture in shunt with the line. Slowly sweep til you see a small dip. Note the frequency and the amplitude. Then place it in series. Note the peak and dip as you tune. Then build an equivalent circuit from the results. Repeat it with higher drive levels until you see the crystal frequency change noticeably. Do not drive it within 10dB of that level if you want REAL stability. Of course, if you need this level of accuracy you're playing serious engineer and know how to do the math. Yer on yer own here. It is too long since I limped through some of this for characterising some VXO crystals. (It DOES work. The resultant VXOs very closely matched predictions, right down to when the spurious resonances would kick in and become a PITA. Your measurement WILL see them if you do it VERY patiently.)  
{^\_^}

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Date: Sun, 19 Jun 94 08:36:53 MST  
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!asuvax!ennews!stat!  
david@network.ucsd.edu  
Subject: GTOR evaluation/update?  
To: ham-digital@ucsd.edu

rogjd@netcom.com (Roger Buffington) writes:

> But would sure like to hear from actual GTOR users who have had the  
> chance to really determine how it compares to Amtor and Pactor.

I have one of the new KAMPlus with both. I really haven't seen much of a difference between GTOR and Pactor, but I've only tried it on two contacts so far, and only in conversation mode. I haven't had the time to transfer some medium size binary files to see it works any better.

david

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Date: Sun, 19 Jun 1994 21:56:01 GMT

From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!usenet.ins.cwru.edu!

news.csuohio.edu!sww@network.ucsd.edu

Subject: GTOR evaluation/update?

To: ham-digital@ucsd.edu

Having tested both Pactor and GTOR over a number of environments, it is plain that although GTOR offers superior performance, Pactor is more reliable.

We do quite a bit of camping. When camping, we connect back home through a number of BBS ports that support Pactor and GTOR. In two systems, two KAMs were placed in parallel with one on GTOR and one on Pactor. A number of weeks have been spent then getting back to the systems from remote locations.

On an eighty meters 200 mile path, GTOR was fantastic when the band was in good to excellent condition. We typically had to stay at the terminal to read the data that was flowing through. The rate of data flow was high enough to be at the limit of reading it as it came in. However, over that same path, Pactor was found to be more reliable. When the band was opening or closing, GTOR would just not link or would do so only on stations that were not scanning. Pactor would link fairly quickly and the link would hold. Data flow once linked would show Pactor throughput to be higher than GTOR. As much of our operation is on 80 meters as the band opens and closes, Pactor is the mode of choice for those limited to one TNC.

73,

Steve

N08M@N08M.#NEOH.OH.USA.NA <<< this works best

ag807@cleveland.freenet.edu <<< this works better

the above address <<< will not work at all

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Date: 19 Jun 1994 21:33:14 -0400

From: ihnp4.ucsd.edu!sdd.hp.com!col.hp.com!csn!jabba.cybernetics.net!not-for-mail@network.ucsd.edu

Subject: Railroad track as an antenna?  
To: ham-digital@ucsd.edu

STORM JAMES (s9898198@sandcastle.cosc.brocku.ca) wrote:

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: I have heard a legend that a college radio station (either at MIT, Tufts,
: or Swarthmore) welded antenna to railroad tracks, and peeved the FCC by
: broadcasting nationwide.  Is this true?  If anyone knows, please email me
: (or post here)  If you do know, could you please direct me to some
: documentation regarding this legend if you can.
:
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I don't think that this would be useful for the frequencies used for commercial radio, but the Pennsylvania RR did use inductive train phones that used low frequency signal passed through the rail. The antennas looked like hand rails on top of the cars and locos. This worked very well for the trains, but the equipment was not at all portable, and propagation away from the tracks was very poor.

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--
Tim Rumph                                Concord, NC
tarumph@cybernetics.net (PSE sent mail here, not to uncc.edu-ALL DONE!)
kd4ows@wb4kdf.#gas.nc.usa.na    (non-hams: don't try to use this on the
                                Internet)
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End of Ham-Digital Digest V94 #202

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